

R E M A R K S

This is in response to the Office Action that was mailed on June 5, 2003. New claim 17 is based on original claim 7. See also the specification, page 5, lines 7-21. Further relevant supporting disclosure may be found in original claim 8 and in the specification: page 9, lines 16-20; page 9, line 26 – page 10, line 13; and page 11, lines 8-10. New claim 18 is essentially a rewritten version of original claim 2. New claim 19 is based upon such disclosure as than in lines 22-26 on page 9 of the specification. New claim 20 corresponds to claim 1 as submitted herein on February 19, 2003. Formal errors are corrected and/or dependencies are adjusted in claims 10, 15, and 16. No new matter is introduced by this Amendment. With this Amendment, claims 9, 10, and 12-20 are in the application.

Claims 1, 2, 8, 10, and 13 were rejected on the ground of obviousness-type double patenting over the claims of US 6,440,636 B1. Office Action, pages 3-4. The rejection is respectfully traversed. Claims 1, 2, and 8 have been cancelled. Claims 10 and 13 are now drawn to photoresist resin compositions comprising polymers as defined in claim 9 or in claim 17, with claim 17 not reciting formula (2a-1) as did former claim 1. Accordingly, withdrawal of the double patenting rejection is earnestly solicited.

Claims 1, 2, 8, 10, and 13 were rejected under 35 U.S.C. §102(f) based upon US 6,440,636 B1. Office Action, pages 4-5. Tatsuya Nakano made the present invention prior to the Japanese priority dates of May 25, 1998 and August 28, 1998. In contrast, US 6,440,636 B1 has a Japanese priority date of November 2, 1999. Therefore it is not seen what evidence of record leads the Examiner “to

believe that the inventor of the present application did not invent the claimed invention". Also, it is noted that US 6,440,636 B1 has a 35 U.S.C. §102(e) date of November 2, 2000, which is subsequent to the January 19, 2000 U.S. filing date of the present invention. Clearly, US 6,440,636 B1 is not a reference against the present application.

Claims 1, 2, 8-10, 12-14, and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 6,245,485 B1 (Aoai). Office Action, pages 5-7.

Regarding formula (1a), Aoai fails to teach or suggest a combination of a specific unit $-CR^1R^2-$ and an oxygen-containing group substituted on an adamantane backbone. Regarding formula (2a), Aoai also fails to teach or suggest a combination of an adamantane backbone and an oxygen-containing group. Regarding formulae (2d) and (2e), Aoai fails to teach or suggest a combination of a decaline or tricyclodecane backbone and an oxygen-containing group substituted on the specific position of the ring.

Concerning formula (1a), Aoai discloses the units (a19) and (a22). In the unit (a19), the adamantane backbone binds a methylene group $-CH_2-$ and has no oxygen-containing group. Although the unit (a22) has a carboxyl group, an adamantane backbone of the unit (a22) directly binds to an oxygen atom without a $-CR^1R^2-$ unit.

Concerning formula (2a), although Aoai discloses a unit (a20), this unit never has an oxygen-containing group substituted on the adamantane backbone.

Similarly, concerning formulae (2d) and (2e), Aoai fails to teach or suggest a combination of a decaline or tricyclo[5.2.1.0^{2,6}]decane ring and an oxygen-containing group substituted on the specific position of the ring.

The Examiner argues that "one of ordinary skill in the art could readily envision an alicyclic compound of the [Aoai] formula, which is substituted at the

bridgehead position". Position isomerism often raises a presumption of obviousness because in many cases changing the position of a substituent does not substantially alter the properties of the resulting compound. Thus, for instance, isopropyl alcohol is known to have properties generally similar to those of n-propyl alcohol, because in the latter case the hydroxyl radical is attached to a carbon atom which is itself attached to a carbon atom and to two hydrogen atoms while the hydroxyl radical in the former compound is attached to a carbon atom that is attached to two carbon atoms and to a hydrogen atom. In both cases, in other words, the hydroxyl radical is attached to a carbon atom which is itself attached to carbon and hydrogen. A substituent attached to a ring carbon in an alicyclic compound is likewise attached to a carbon atom that is attached to carbon and hydrogen. A very different situation exists with respect to bridgehead carbon atoms. A substituent attached to a bridgehead carbon is not attached to a carbon atom attached to carbon and hydrogen. Instead, the bridgehead substituent is attached to a carbon which is attached to three other carbons (at that point in the molecule, there is a resemblance to elemental carbon rather than to hydrocarbon compounds). Thus, even though bridgehead/non-bridgehead substitution may in some broad sense resemble position isomerism, it is not the sort of "similar properties" position isomerism that creates a *prima facie* case of unobviousness.

The substituting position on a ring such as adamantane, decaline, and tricyclo[5.2.1.0^{2,6}]decane has an important role for adhesion to a substrate. In this connection, the present invention provides unexpected beneficial results. In Aoi, although the units (a19) and (a20) have an adamantane backbone, adhesion to a substrate would not be improved because the adamantane backbone is bulky and the unit has no oxygen-containing group. With the unit (a22) of Aoi, the ring has a carboxyl group or a hydroxyl groups, so adhesion properties may be improved. However, the units would not be hydrolyzed effectively by an acid generator.

Similarly, Aoai's unit (a19) would not be effectively hydrolyzed by an acid generator. In contrast to the Aoai technology, adhesion and resolution are improved and fine-line patterns are formed with high accuracy by the combination of the specific rings and oxygen-containing groups as specified in the present claims. These results are not made available to those of ordinary skill in the art by the Aoai disclosure.

Withdrawal of the rejection over Aoai is respectfully solicited.

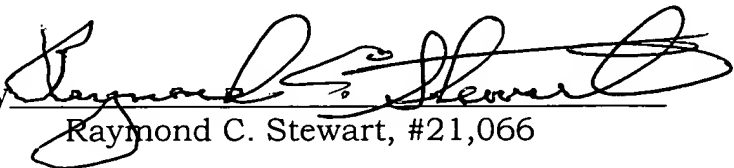
Should there be any remaining issues to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 29,781) at (703) 205-8008.


Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants hereby petition for an extension of three (3) months to December 5, 2003, in which to file a reply to the Office Action. The required fee of \$950.00 is enclosed herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Raymond C. Stewart, #21,066

RCS/RG 
2224-0163P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000